

1. (Twice Amended) An emitter controlled thyristor device package having a cathode terminal and an anode terminal, comprising:

a thyristor device having a thyristor emitter, a thyristor collector, and a thyristor gate, said thyristor comprising alternating P-type and N-type semiconductor regions;

8 a first discrete metal oxide semiconductor ^(MOS) transistor [(MOS)] connected in series with said
9 thyristor between said cathode terminal [and] said
10 thyristor emitter;

a second discrete MOS transistor connected between said cathode terminal and said thyristor gate, a gate terminal of said second MOS transistor connected to said cathode terminal; and

means for injecting electrons into said thyristor
17 for triggering said thyristor into [(said) a] latching state;

wherein a first voltage applied to a gate terminal of said first MOS transistor causes a forward current to flow between said cathode terminal and said anode terminal turning said emitter controlled thyristor device to an on state, and a zero to second voltage applied to said gate of said first MOS transistor turns said emitter controlled thyristor device to an off state.

19. (Twice Amended) A gate turn-off (GTO) thyristor device package comprising:

a first metal plate;

a second metal plate;

a third metal plate electrically insulated from said second metal plate;

a thyristor sandwiched between said first metal plate and said second metal plate, a collector of said thyristor contacting said first metal plate acting as an anode for said GTO thyristor device package;

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a first discrete metal oxide semiconductor (MOS) transistor positioned on said second metal plate adjacent said thyristor, said first MOS transistor having a first terminal connected to an emitter of said thyristor and a second terminal connected to said third metal plate acting as a cathode for said GTO device package; and

a second discrete MOS transistor positioned on said second metal plate adjacent said thyristor, said second MOS transistor having a first terminal connected to a gate of said thyristor, said second MOS transistor further having a second terminal and a gate terminal connected to said third metal plate,

wherein a first voltage applied to a gate terminal of said first MOS transistor turns said thyristor to an on state causing a current to flow between said cathode and said anode, and a zero to second voltage applied to said gate of said first MOS transistor turns said
29 [emitter controlled] thyristor device to an off state.

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22. (Amended) A gate turn-off (GTO) thyristor device
2 package as recited in claim [39], wherein said first and second discrete semiconductor switches are first and second MOS transistors, respectively, and said first MOS transistor and said second MOS transistor are complementary.

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figs 17A-17D
p. 21
23. (Amended) A gate turn-off thyristor (GTO) device package comprising:

a gate turn-off (GTO) thyristor comprising a thyristor gate, a thyristor emitter, and a thyristor collector forming an anode terminal;

a first plurality of discrete switching devices connected in parallel arranged in a circular fashion
8 around said GTO thyristor, a first terminal of ^{each of} said MOS
9 transistors connected to said thyristor emitter and a

each of
 10 second terminal of ^{each of} [said MOS transistors] connected to a cathode terminal of said GTO device package; and

each of
 14 a second plurality of discrete switching devices connected in parallel arranged in a circular fashion around said GTO thyristor, a first terminal of ^{each of} said
 15 [MOS] switching devices] connected to said thyristor
 16 gate and a second terminal of ^{each of} said switching devices connected to said cathode terminal of said GTO device package,

20 wherein a first voltage applied to a gate terminal of ^{each of} said first plurality of switching devices turns said GTO thyristor to an on state causing a current to flow between said cathode terminal and said anode terminal,
 23 and a zero to second voltage applied to said gate ^{terminal of each} of said first plurality of switching devices turns said GTO thyristor to an off state.

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 25. (Twice Amended) A gate turn-off thyristor (GTO) device package as recited in claim 23 further
 3 comprising a ^{where are 1st and 2nd?} [third] metal plate forming an anode terminal of said GTO thyristor device package.

Sub D19
 32. (Amended) A gate turn-off thyristor (GTO) as
 2 recited in claim 23, further wherein [said first
 3 switching devices comprise a MOS transistor] comprising:
 4 a feedback path connecting [said gate terminal] of said MOS transistor to said thyristor emitter;
 6 [a capacitor connected in parallel to said MOS
 7 switching device connecting said second terminal of
 8 said MOS transistor to said thyristor gate terminal].

Sub D19, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200
 33. (Twice Amended) An emitter turn-off thyristor device package including
 a thyristor element having an anode terminal, an emitter terminal and a gate terminal,
 a first discrete semiconductor switch connected in
 6 series with said emitter terminal of said thyristor

7 [device] by a first terminal of said first semiconductor switch,

a second discrete semiconductor switch connected in series with said gate terminal of said thyristor device by a first terminal of said second discrete semiconductor switch; second terminals of said first and second discrete semiconductor switches being connected together, and

means for shorting said emitter of said thyristor element to a terminal of said first discrete semiconductor switch [or] for injecting electrons into said thyristor for triggering said thyristor into a latching state;

wherein said first and second discrete semiconductor switches are arranged such that a signal
22 of a first type applied to [said first discrete
23 electronic switch] turns said emitter turn-off thyristor to an on-state and a signal of a second type applied to
25 [said first electronic switch] turns said emitter turn-off thyristor to an off-state.

42. (Amended) An emitter turn-off device package as recited in claim 33, wherein one of said first and
3 second discrete semiconductor switches includes ^a MOS transistor.

43. (Amended) An emitter turn-off device package as
2 recited in claim 33, wherein one of [said first] and second discrete semiconductor switches includes a diode.

44. (Amended) An emitter turn-off device package as
2 recited in claim 33, wherein one of [said first] and second discrete semiconductor switches includes a zener diode.